PLANTING GUIDE

'RESTORER' GIANT **BULRUSH**

Scirpus californicus

Introduction: RESTORER Giant Bulrush was evaluated and selected at the USDA-SCS, Americus, Georgia, Plant Materials Center in 1993 as a new plant for constructed wetlands. RESTORER can be used in constructed wetlands to treat agricultural non-point source pollution, and for the creation and restoration of wetlands.

Description: A coarse, perennial, robust and gregarious bulrush from tight sub-rhizomiatous knots. It usually can reach a height of about **9** feet tall in nature plantings. The stems are stout and obtusely 3-angled. The stem sheath bladeless or leaves reduced to stem sheaths and of basal origin.

Conservation Uses: RESTORER Giant Bulrush can be used in constructed wetlands to treat agricultural non-point source pollution, to treat the effluent from small towns and communities, and for residences where septic tank systems have failed, and for the creation and restoration **of** wetlands.

Habitat: It usually occurs as an emergent in marshes, in swamps, and on shorelines; It is adapted to fresh marsh sites but will tolerate water salinity of up to **1** percent.

Distribution: Giant bulrush occurs from **South** Carolina to Florida to Texas to California; plant growth regions 2, 6, *7.*

RESTORER Giant Bulrush is a selection made from a collection in Eastern Hillsborough County near Branden, florida.

Field planting trials have been made in constructed wetlands in Alabama and Georgia.

Plant Spacing: Because RESTORER is a vigorous rhizome producer, it can be planted 6 feet apart in the row with rows *6* feet apart.

Plantina Methods: RESTORER can be planted vegetatively by hand with a tree dibble, or mechanically with, a tractor drawn tree planter, or a ditch witch, on good sites that are accessible with mechanical equipment.

Plantina **Time:** RESTORER should be planted vegetatively with nursery grown plants from March **1** to June 30 in the southeast. Be sure to keep the substrate moist for about six weeks with good quality water from a well or lake, and not the lagoon wastewater.

Fertilization: None required for constructed wetlands.

Site Preparation: The bottom of constructed wetlands that have a heavy clay substrates should be backfilled with about six inches of good soil that will provide a good planting medium to support root growth and development. During construction the bottom must be level to allow a uniform water depth.

Water Level Manaaement: Keep the site moist after planting with good quality water from a well on lake. Do not use the lagoon wastewater as a source of water for the transplanted materials because of the high nutrient concentration. Do not allow the water to flood the new plants within the first six weeks. During the seventh week, begin to gradually, very slowly acclimate the plant material to increased depth by applying about one inch per week for six weeks. At the end of the twelfth week, the desired water level of six to seven inches can be obtained without causing any damage to the plants.

Wastewater from the animal waste lagoon can be loaded or distributed continuously to the wetlands at the rate of 8,600 gal per day per acre.

At no time should water levels overtop the plants. In contrast, water levels for emergent plants should never be lowered to the extent that the plant roots become exposed. Dry substrate conditions in the constructed wetland (substrate) will result in poor plant survival, growth and development.

Plant Sources: **RESTORER** will be available from most commercial nurseries in the southeast that handle wetland plants in 1994. For a quick reference check the wetland plant source database.

RESTORER will be maintained by the Americus, Georgia Plant Materials Center. Generation 2 plants will be provided to the commercial nurseries from which plants may be produced vegetatively for increase and commercial distribution.